

## **REMARKS**

This is in response to the Office Action mailed February 13, 2004. Accordingly, the Amendment is accompanied by a petition to extend the time for response by 3 months, together with the required fee.

### Objection to the Drawings

Figure 1A has been amended to show a source controller. Applicant traverses the requirement to label Figures 2, 3A and 3B as "prior art" because these figures are already labeled "prior art." Copies of these figures as our records show them to have been originally filed are attached. Applicant traverses the requirement to label Figures 8A, 8B, 9A, and 9B as prior art because the description of the drawings does not indicate that they illustrate prior art. If the examiner disagrees, Applicant respectfully requests the examiner to indicate where in the specification these Figures are alleged to be described as representing the prior art.

### Objection to the Specification

Applicant has amended Page 7, lines 3 and 4 and Page 17, line 19 as indicated above.

### Section 112 Rejections

Claims 39 and 50 have been amended to delete reference to a "switching element controller." The remaining claims objected to on the same basis have been cancelled.

## Section 102 Rejections

Claims 36, 37, and 39 - 46 stand rejected as being anticipated under 35 USC §102(e) by Fraidlin et al., U.S. Patent No. 6,038,142 ("Fraidlin"). The examiner asserts that Fraidlin discloses alternating the voltage across a secondary winding from one of a negative ON time during which the voltage is negative and a positive ON time during which the voltage is positive, to a dead time wherein the voltage is substantially zero, and then to the other of the negative ON time and positive ON time, citing Col. 3, lines 8 - 31 and Col. 3, line 45 - Col. 4, line 40. Since amended claim 46 incorporates a similar limitation, applicant respectfully traverses the ground of rejection.

At Col. 3, lines 8 - 31, Fraidlin describes merely that an alternating voltage is produced across a transformer 110 of the circuit shown in Figure 1.

At Col. 3, line 45 to Col. 4, line 40, Fraidlin describes a timing diagram shown in Figure 2 which demonstrates operation of the circuit of Figure 1. A "switching cycle" is described which discloses current flow through the primary, but does not disclose the voltage applied across the primary. Therefore, the examiner must be making an assumption that the current and voltage will follow the same pattern. Even assuming this assumption is correct, however, Fraidlin explains in the same text cited by the examiner that the current does not follow the sequence alleged.

Fraidlin describes the switching cycle in terms of four time intervals:

In a first time interval  $t_1 - t_2$ , "magnetizing current  $i_m$ " is circulating within the primary winding. Col. 2, lines 57 - 58. Inspection of Figure 2 shows that the value of  $i_m$  during the interval  $t_1 - t_2$  is constant at some negative value.

In the second interval  $t_2 - t_3$ , primary current ramps up until it reaches the level an inductor current  $i_{14}$  at time  $t_3$ . Col. 4, lines 4 - 9. The primary current is indicated for this time interval to be

equal to  $i_{103}$ . Inspection of Figure 2 shows that the value of  $i_{103}$  rises exponentially from a negative value to a positive value.

In the third time interval  $t_3 - t_4$ , primary current keeps ramping up, driven by the voltage across clamping capacitor 116. When time  $t_4$  is reached, the primary current is at its maximum value. The primary current is still  $i_{103}$ . Col. 4, lines 15 - 18. Inspection of Figure 2 shows that the value of  $i_{103}$  continues to rise exponentially (and therefore continues to be positive).

In the fourth time interval  $t_4 - t_5$ , current flow through the primary is stated to be “terminated.” Col. 4, lines 23 - 26. Accordingly, the current drops from its positive value to a zero value and is maintained at the zero value until  $t_5$ .

Therefore, the primary current is first negative, then rises to become positive, and then falls to zero for a time. Assuming this “cycle” is repeated, the “dead time” (in this case for current flow in the primary winding) in Fraidlin lies adjacent two time intervals in which the current flow has the same polarity (positive).

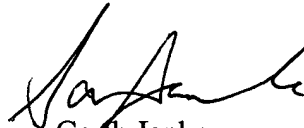
### Section 103 Rejections

Claim 38 is rejected under 35 USC §103(a) as being unpatentable over Fraidlin in view of Laeuffer, U.S. Patent No. 6,324,080; Claims 47, 48, 50 - 52, 55, 58, 59, 61 - 63, 66 stand rejected as being unpatentable over Fraidlin in view of Saitou, U.S. Patent No. 6,038,142; Claims 49 and 60 stand rejected as being unpatentable over Fraidlin and Saitou in view of Laeuffer; Claims 53, 54, 56, 57, 64, 65, 67 and 68 stand rejected as being unpatentable over Fraidlin and Saitou in view of Bees, U.S. Patent No. 5,638,260; Claims 69 and 73 stand rejected as being unpatentable over Fraidlin in view of Morris, U.S. Patent No. 5,555,494; Claim 70 stands rejected as being unpatentable over

Fraidlin and Morris in view of Konopka, U.S. Patent No. 5,969,481; Claims 71 and 72 stand rejected as being unpatentable over Fraidlin, Morris and Konopka in view of Bees.

Fraidlin is the primary reference in all of the rejections; however, as shown above, Fraidlin does not teach or suggest what the examiner alleges. Since there is no allegation that any of the secondary references teach or suggest this subject matter, the amendments to claims 36 and 47 render all of the rejections moot.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Garth Janke', is written over the typed name.

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